

Appl. No. : 10/782,997
Filed : February 19, 2004

REMARKS

Reconsideration and allowance of this application, as amended, is respectfully requested. Claims 1-56 were pending in this application prior to entry of the above amendments. Claims 20-22 and 48-56 are herein canceled. Claims 1, 21-25, 35, 41-43, 46 and 47 have been amended to clarify the invention. New Claims 57 and 58 have been added. No new matter is added by any of these amendments. Accordingly, Claims 1-19, 23-47 and 57 are now pending.

Applicants submit that this application, as amended, is in condition for allowance and such action is earnestly requested. Each of the Examiner's reasons for rejection is addressed below.

Allowable subject matter

Applicants note with appreciation that Claims 27-34 are allowed and that Claims 42-45 would be allowable if rewritten in independent form. However, in view of the asserted allowability of Claim 35, as discussed below, Applicants decline to rewrite Claims 42-45 at this time.

Amendments to the claims

Claims 1 and 35 have been amended to clarify the invention. Claim 1, as amended, recites, *inter alia*, "densifying the dielectric material with a process that will cause the liner to expand, wherein densifying comprises ramping the substrate temperature from an initial temperature to a target temperature in an oxidizing environment." Claim 35, as amended, recites, *inter alia*, "expanding the liner while contracting the dielectric filler using a process comprising curing the substrate in a steam ambient environment at a temperature between about 200°C and 600°C and ramping up to a temperature between about 800°C and 1200°C." Amendments to Claims 1 and 35 are fully supported by the application as filed, U.S. Patent Publication No. 2005/0186755 ("the Application"), at, for example, paragraph [0041].

Claims 21-25 and 41-43 have been amended for consistency with amended Claims 1 and 35, respectively.

Claims 46 and 47 have been amended to correct typographical errors. These amendments are fully supported by the application at, for example, paragraph [0043].

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New dependent Claims 57 and 58 have been added. The new claims are fully supported by the Application at, for example, paragraphs [0041] and [0044].

Rejection of the claims under 35 U.S.C. §102

Claims 1, 6, 8-14, 16-22, 25, 26, 35-41, 46 and 47 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,699,799 to Ahn et al. ("Ahn"). Claims 35, 38 and 41 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,869,384 to Yu et al. ("Yu").

Applicants submit that Claims 1 and 35, as amended, are allowable over Ahn because Ahn does not teach or disclose "densifying the dielectric material with a process that will cause the liner to expand, wherein densifying comprises ramping the substrate temperature from an initial temperature to a target temperature in an oxidizing environment," as recited in amended Claim 1, and "expanding the liner while contracting the dielectric filler using a process comprising curing the substrate in a steam ambient environment at a temperature between about 200°C and 600°C and ramping up to a temperature between about 800°C and 1200°C," as recited in amended Claim 35. Ahn, in contrast to amended Claims 1 and 35, teaches two separate processes at two separate temperatures, and oxidation is only disclosed at the higher temperature (*see* Ahn, col. 6, lines 9-11). Accordingly, Applicants respectfully request that the §102 rejection of Claims 1 and 35 in view of Ahn be withdrawn.

Applicants submit that Claim 35 is allowable over Yu because Yu does not teach or disclose the limitations of amended Claim 35. Yu does not teach or disclose "expanding the liner while contracting the dielectric filler using a process comprising curing the substrate in a steam ambient environment at a temperature between about 200°C and 600°C and ramping up to a temperature between about 800°C and 1200°C," as recited in amended Claim 35. Yu, in contrast to amended Claim 35, teaches densification at a single elevated temperature (*see* Yu, col. 8, lines 16-19, and col. 10, lines 40-55). Accordingly, Applicants respectfully request that the §102 rejection of Claim 35 in view of Yu be withdrawn.

Claims 6, 8-14, 16-22, 25, 26, 35-41, 46 and 47 depend from and therefore include all of the limitations of Claims 1 and 35, in addition to reciting additional features of particular advantage and utility. Neither Ahn nor Yu teaches or discloses the limitations of amended

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Claims 1 and 35, let alone the unique combination of limitations of Claims 6, 8-14, 16-22, 25, 26, 35-41, 46 and 47. Consequently, Applicants respectfully request that the §102 rejections of Claims 6, 8-14, 16-22, 25, 26, 35-41, 46 and 47 also be withdrawn.

Rejection of the claims under 35 U.S.C. §103

Claims 1-12, 15-19, 23, 24, 36, 37, 46 and 47 stand rejected under 35 U.S.C. §103(a) as being unpatentable over various combinations of Anh, Yu, U.S. Patent No. 6,461,937 to Kim et al. ("Kim"), U.S. Patent No. 6,956,276 to Hokozone et al. ("Hokozone"), and U.S. Patent No. 6,500,726 to Lee et al. ("Lee").

Applicants submit that Claim 1, as amended, is allowable over Yu in view of Hokozone because the asserted combination does not teach or include "densifying the dielectric material with a process that will cause the liner to expand, wherein densifying comprises ramping the substrate temperature from an initial temperature to a target temperature in an oxidizing environment," as recited in amended Claim 1. Accordingly, Applicants respectfully request that the §103 rejection of Claim 1 be withdrawn.

Claims 2-12, 15-19, 23 and 24 depend from and therefore include all of the limitations of Claim 1, in addition to reciting additional features of particular advantage and utility. The combination of Yu and Hokozone does not teach or include the limitations of amended Claim 1, let alone the unique combination of limitations of Claims 2-12, 15-19, 23 and 24. Consequently, Applicants respectfully request that the §103 rejections of Claims 2-12, 15-19, 23 and 24 also be withdrawn.

Claim 35, as amended, is allowable because the prior art of record, alone or in combination, does not teach or include "expanding the liner while contracting the dielectric filler using a process comprising curing the substrate in a steam ambient environment at a temperature between about 200°C and 600°C and ramping up to a temperature between about 800°C and 1200°C," in combination with the other features of amended Claim 35. Claims 36, 37, 46 and 47 depend from and therefore include all of the limitations of Claim 35, in addition to reciting additional features of particular advantage and utility. Accordingly, Applicants respectfully request that the §103 rejection of Claims 36, 37, 46 and 47 be withdrawn.

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CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. If there is any further hindrance to allowance of the pending claims, the Examiner is invited to contact the undersigned.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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